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Group Art Unit No. 2616

# AMENDMENTS TO THE CLAIMS PURSUANT TO 37 C.F.R. § 1.312

Pursuant to 37 CFR § 1.312, please amend the claims as shown below.

1. (Currently amended) In a virtual private network that provides voice and data communications, the virtual private network including a first private network and a second private network connected by a first communication network that supports voice communications and does not support ~~net-supports~~ at least one advanced voice communication feature that is supported by the first private network and the second private network, a method of providing the advanced voice communication feature for a call from the first private network to the second private network, the method comprising the steps of:
  - establishing a connection between the first private network and the second private network through an auxiliary communication network that supports the advanced voice communication feature;
  - determining that a signaling message from the first private network invokes the advanced voice communication feature;
  - converting the signaling message in a first protocol to a second signaling message in a second protocol for handling messages that pass enough information to implement the advanced voice communication feature;
  - transmitting the second signaling message between the first private network and the second private network through the auxiliary communication network;
  - prior to establishing the connection between the first private network and the second private network through an auxiliary communication network, establishing a connection between the first private network and the second private network through the first communication network; and
  - wherein the connection between the first private network and the second private network through an auxiliary communication network is established from the second private network in response to establishing the connection between the first private network and the second private network through the first communication network.

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2. (Previously Presented) The method of claim 1, wherein the auxiliary communication network supports voice communications and data communications.
3. (Currently Amended) The method of claim 1, wherein the first communication network [[is]] comprises a public switched telephone network.
4. (Previously Presented) The method of claim 1, wherein the first communication network supports data communications.
5. (Cancelled)
6. (Original) The method of claim 1, wherein the step of establishing a connection between the first private network and the second private network through an auxiliary communication network includes establishing the connection in response to determining that a signaling message from the first private network invokes the advanced voice communication feature.
7. (Original) The method of claim 1, further comprising the step of:  
intercepting, from the first private network, the signaling message that invokes the advanced voice communication feature, wherein the first private network is the private network from which the call originates.
8. (Original) The method of claim 1, further comprising the step of:  
intercepting, from the second private network, the signaling message that invokes the advanced voice communication feature, wherein the second private network is the private network at which the call terminates.
9. (Original) The method of claim 1, wherein the advanced voice communication feature is a custom calling feature from a group consisting of call-waiting, call-forwarding, and three-way-calling.

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10. (Currently amended) An apparatus that interconnects a first private network to a second private network through a first communication network that supports voice communications and does not support ~~not supports~~ at least one advanced voice communication feature that is supported by the first private network and the second private network, and that interconnects the first private network to the second private network through a second communication network that supports voice communications and data communications and supports the at least one advanced voice communication feature that is supported by the first private network and the second private network, the apparatus comprising:

- a first communications interface coupled between the first private network and the first communication network so as to communicate information therebetween;
- a second communications interface coupled between the first private network and the second network so as to communicate messages in a protocol for handling messages that pass enough information to implement the advanced voice communication feature wherein the second communications interface couples the first and the second private networks through the second communication network that supports the advanced voice communication feature;
- a processor coupled to the first communications interface and the second communications interface; and
- a memory coupled to the processor, the memory comprising one or more instructions which, when executed by the processor, cause the processor to perform the steps of:
  - establishing a connection between the first private network and the second private network through the second communication network;
  - determining that a signaling message from the first private network invokes the advanced voice communication feature;
  - converting the signaling message in a first protocol to a second signaling message in the protocol for handling messages that pass enough information to implement the advanced voice communication feature; and
  - transmitting the second signaling message between the first private network and the second private network through the second communication network[[:]] wherein the establishing a connection between the first and second private networks through the second communication network is performed with the second

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communications interface in response to the determining that a signaling message from the first private network invokes the advanced voice communication feature and upon initiating, with the first communications interface, a connection between the first private network and the second private network through the first communication network.

~~prior to establishing the connection between the first private network and the second private network through an auxiliary communication network, establishing a connection between the first private network and the second private network through the first communication network; and~~

~~wherein the connection between the first private network and the second private network through an auxiliary communication network is established from the second private network in response to establishing the connection between the first private network and the second private network through the first communication network.~~

11. (Currently Amended) The apparatus of claim 10, wherein the first communication network ~~[[is]]~~ comprises a public telephone network.
12. (Previously Presented) The apparatus of claim 10, wherein the first communication network supports data communications.
13. (Cancelled)
14. (Original) The apparatus of claim 10, wherein the step of establishing a connection between the first private network and the second private network through the second communication network includes establishing the connection in response to determining that a signaling message from the first private network invokes the advanced voice communication feature.
15. (Original) The apparatus of claim 10, wherein the instructions cause the processor to

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perform the step of:

intercepting, from the first private network, the signaling message that invokes the advanced voice communication feature, wherein the first private network is the private network from which the call originates.

16. (Original) The apparatus of claim 10, wherein the instructions cause the processor to perform the step of:

intercepting, from the second private network, the signaling message that invokes the advanced voice communication feature, wherein the second private network is the private network at which the call terminates.

17. (Original) The apparatus of claim 10, wherein the advanced voice communication feature is a custom calling feature from a group consisting of call-waiting, call-forwarding, and three-way-calling.

18. (Currently amended) A computer-readable medium carrying one or more sequences of instructions for providing an advanced voice communication feature for a call from a first private network to a second private network that is interconnected to the first private network through a first communication network that supports voice communications and does not support ~~not supports~~ at least one advanced voice communication feature that is supported by the first private network and the second private network and that is interconnected to the first private network through a second communication network that is capable of supporting voice communications and data communications and is capable of supporting the at least one advanced voice communication feature that is supported by the first private network and the second private network, which instructions, when executed by one or more processors, cause the one or more processors to carry out the steps of:

establishing a connection between the first private network and the second private network through the second communication network;  
determining that a signaling message from the first private network invokes the advanced voice communication feature;

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converting the signaling message in a first protocol to a second signaling message in a  
[[the]] protocol for handling messages that pass enough information to  
implement the advanced voice communication feature; and  
transmitting the second signaling message between the first private network and the  
second private network through the second communication network;  
prior to establishing the connection between the first private network and the second  
private network through an auxiliary communication network, establishing a  
connection between the first private network and the second private network  
through the first communication network; and  
wherein the connection between the first private network and the second private network  
through an auxiliary communication network is established from the second  
private network in response to establishing the connection between the first  
private network and the second private network through the first communication  
network.

19. (Currently Amended) The computer-readable of claim 18, wherein the first  
communication network [[is]] comprises a public telephone network.

20. (Previously Presented) The computer-readable of claim 18, wherein the first  
communication network supports data communications.

21. (Cancelled)

22. (Original) The computer-readable of claim 18, wherein the step of establishing a  
connection between the first private network and the second private network through the second  
communication network includes establishing the connection in response to determining that a  
signaling message from the first private network invokes the advanced voice communication  
feature.

23. (Original) The computer-readable of claim 18, wherein the instructions cause the one  
or more processors to carry out the step of:

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intercepting, from the first private network, the signaling message that invokes the advanced voice communication feature, wherein the first private network is the private network from which the call originates.

24. (Original) The computer-readable of claim 18, wherein the instructions cause the one or more processors to carry out the step of:

intercepting, from the second private network, the signaling message that invokes the advanced voice communication feature, wherein the second private network is the private network at which the call terminates.

25. (Original) The computer-readable of claim 18, wherein the advanced voice communication feature is a custom calling feature from a group consisting of call-waiting, call-forwarding, and three-way-calling.

26. (Currently Amended) An apparatus that interconnects a first private network to a second private network through a first communication network that supports voice communications and does not support ~~net-supports~~ at least one advanced voice communication feature that is supported by the first private network and the second private network, and that interconnects the first private network to the second private network through a second communication network that supports voice communications and data communications and supports the at least one advanced voice communication feature that is supported by the first private network and the second private network, the apparatus comprising:

means for establishing a connection between the first private network and the second private network through the second communication network;

means for determining that a signaling message from the first private network invokes the advanced voice communication feature;

means for converting the signaling message in a first protocol to a second signaling message in a [[the]] protocol for of handling messages that pass enough information to implement the advanced voice communication feature;

means for transmitting the second signaling message between the first private network and the second private network through the second communication network~~[[;]]~~

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wherein the establishing means function in response to the function of the determining means and upon initiating a connection between the first private network and the second private network through the first communication network.  
~~prior to establishing the connection between the first private network and the second private network through an auxiliary communication network, establishing a connection between the first private network and the second private network through the first communication network; and~~  
~~wherein the connection between the first private network and the second private network through an auxiliary communication network is established from the second private network in response to establishing the connection between the first private network and the second private network through the first communication network.~~

27. (Currently amended) A system comprising:
- a first private network that supports an advanced voice communication feature;
  - a first protocol converter coupled to the first private network;
  - a first communication network coupled to the first protocol converter and employing a protocol that does not support the advanced voice communication feature;
  - a second protocol converter coupled to the first communication network;
  - a second private network that supports the advanced voice communication feature and supports ~~supporting~~ data communications and that is coupled to the second protocol converter; and
  - a second communication network that supports the advanced voice communication feature and that is coupled to the first protocol converter and the second protocol converter, the second communication network for transmitting a converted signaling message, between the first protocol converter and the second protocol converter, in a protocol for handling messages that pass enough information to implement the advanced voice communication feature;



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wherein the first protocol converter comprises a first communications interface coupled between the first private network and the first communication network so as to communicate information therebetween; a second communications interface coupled between the first private network and the second network so as to communicate messages in a protocol for handling messages that pass enough information to implement the advanced voice communication feature; a processor coupled to the first communications interface and the second communications interface; and a memory coupled to the processor, the memory comprising one or more instructions which, when executed by the processor, cause the processor to perform the steps of:

- establishing a connection between the first private network and the second private network through the second communication network;
- determining that a signaling message from the first private network invokes the advanced voice communication feature;
- converting the signaling message in a first protocol to a second signaling message in the protocol for handling messages that pass enough information to implement the advanced voice communication feature;
- transmitting the second signaling message between the first private network and the second private network through the second communication network;

prior to establishing the connection between the first private network and the second private network through an auxiliary communication network, establishing a connection between the first private network and the second private network through the first communication network; and

wherein the connection between the first private network and the second private network through an auxiliary communication network is established from the second private network in response to establishing the connection between the first private network and the second private network through the first communication network.

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28. (Currently Amended) The system of claim 27, wherein the first communication network comprises a public telephone network.

29. (Original) The system of claim 27, wherein the first communication network supports data communications.

30. (Previously Presented) The apparatus of claim 26, wherein the means for establishing a connection between the first private network and the second private network through an auxiliary communication network includes means for establishing the connection in response to determining that a signaling message from the first private network invokes the advanced voice communication feature.

31. (Previously Presented) The apparatus of claim 26, further comprising means for intercepting, from the first private network, the signaling message that invokes the advanced voice communication feature, wherein the first private network is the private network from which the call originates.

32. (Previously Presented) The apparatus of claim 26, further comprising means for intercepting, from the second private network, the signaling message that invokes the advanced voice communication feature, wherein the second private network is the private network at which the call terminates.

33. (Previously Presented) The apparatus of claim 26, wherein the advanced voice communication feature is a custom calling feature from a group consisting of call-waiting, call-forwarding, and three-way-calling.